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# THE BRYOLOGIST.

VOL. V.

MARCH, 1902.

No. 2.

## LICHENS—PHYSICIA.

BY CAROLYN W. HARRIS.

(WITH PLATE III.)

While the Physcias are found in the Northern States they are more abundant in the South, especially the higher and more beautiful forms. They are quite generally distributed, having been collected in all parts of Europe, and in Japan.

The thallus varies from nearly crustaceous, through foliaceous to fruticose. The foliaceous type resembles very closely the Parmelias, but the thallus is thinner and clings more closely to the substratum. The lobes are not so blunt and leaf-like, but are finely cut and delicate. In most species of *Parmelia* the under side of the thallus is shining, as if varnished, while in *Physcia* it is dull and pale. The color is usually gray, tinged with green. The under side is pale, often white, but appearing in some species black on account of the thick mat of black rhizoids. Often the lobes of the thallus are terminated by long, stiff cilia. Some species are rarely found in fruit but are covered with whitish soredia upon the upper surface and along the turned over margins of the lobes of the thallus. The apothecia are smaller than in *Parmelia* and are almost sessile; the margin entire or crenulate, the disk round and dark in color. In *Parmelia* the disk is quite thin, in *Physcia* it is thick. The thin paper-like thallus of many species renders them difficult to collect satisfactorily from the tree trunks on which they are so generally found. Some species grow on mossy rocks, and in damp weather are easily detached.

By the earlier lichenists the Physcias were combined with *Parmelia*; while the thalli are much alike in general appearance, their spore characters are quite different, and on close observation their thalli will be found to differ very much, both in appearance and habit of growth. The name, *Physcia*, was given to this genus in 1824 by Fries, in allusion, it is said, to its delicate thallus, the name being derived from a Greek word meaning breath or wind.

*PHYSCIA SPECIOSA*. (WULF., ACH.) NYL. (PLATE III. 4). This is one of the Physcias most generally found in the Eastern States, and is also one of the prettiest, often forming complete, round, star-like mats of a delicate silvery green. The thallus is very thin and brittle, much branched, with obtuse strap-shaped lobes, which have deep wavy margins. These are flat with rolled over powdery margins, especially toward the centre. Beneath, the thallus is white with fibrils of the same color. The apothecia are small, almost sessile, with cup-shaped disk, the margin of which is entire when young, crenulate and curved inward when older. *P. speciosa* is found on trees, but more frequently on mossy shaded rocks. It grows close to the sub-

The January BRYOLOGIST was issued January 7th, 1902.

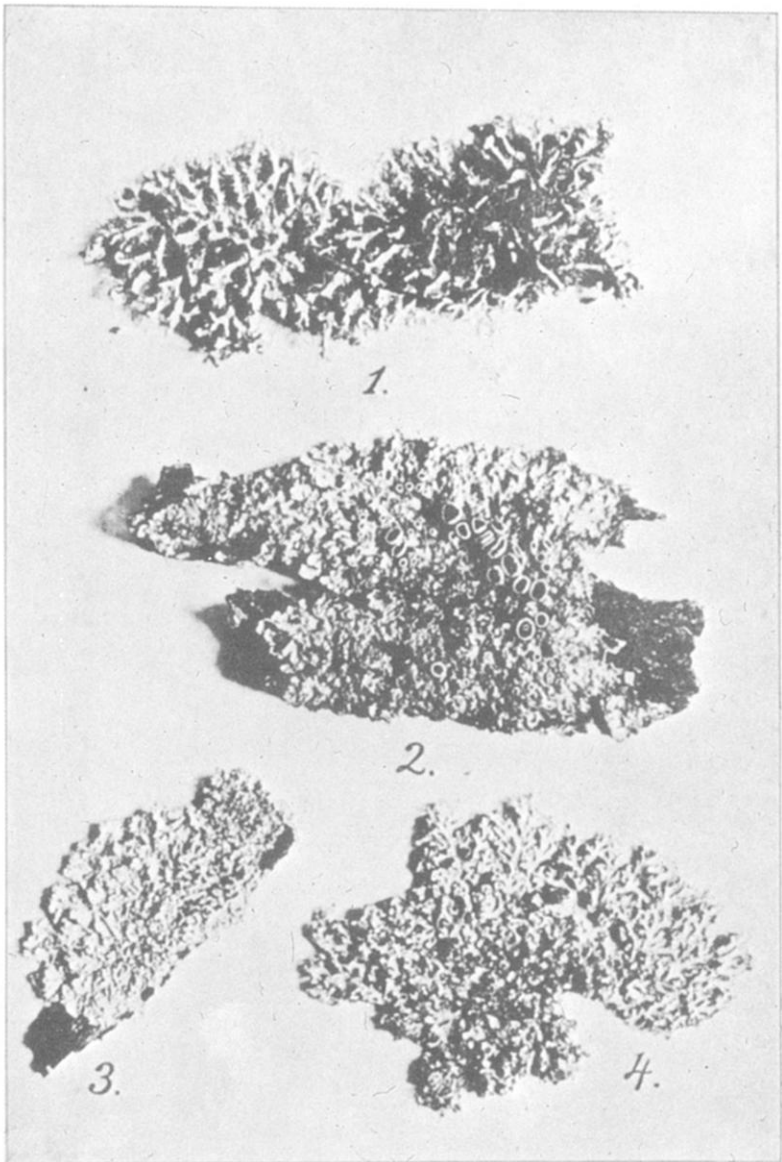


Plate III. 1. *Physcia comosa* 2. *P. hypoleuca*  
3. *P. crispa* 4. *P. speciosa*.

stratum but when damp is easily removed. It is found in the Eastern and Southern States, but is not common in the West.

*PHYSCIA HYPOLEUCA* (MUHL.) TUCKM. PLATE III. 2.) Thallus large and smooth, light gray-brown, the lobes rather flat with crenate margins, which are sometimes powdery. Beneath the thallus is either white or light brown, densely covered with tufts of black bristle-like fibrils, with which it adheres closely to the substratum. The apothecia are rather large, crowded at the centre, cup-shaped, the disk black with crenulate folded over margin. *P. hypoleuca* is usually found on trees, and oftener in the South than at the North.

*PHYSCIA COMOSA* (ESCHW.) NYL. (PLATE III. 1.) This very pretty lichen is found throughout the Southern States. The thallus is erect and smooth, and the narrow lobes are covered with grayish white fibrils. The apothecia, which are large, are on the ends of the lobes, the disk is blue-gray or pruinose, surrounded by a thin white border from which extends white cilia. Underneath, the lobes of the thallus are convex, pale gray, thickly covered with long white fibrils. It adheres lightly to the trees on which it grows. After a rain large specimens are often found on the ground.



Fig. 1. *Physcia leucomela*. While much like *P. comosa* it can readily be distinguished from it by the color of the fibrils; in *P. comosa* they are light gray or white, in *P. leucomela* they are dark brown or black. Apothecia, which are very abundant in *P. comosa*, are rare in *P. leucomela*. They are of medium size, pedicellate, the disk almost white, the border beset with lobules. It is found on trees, and is very abundant in the mountains of North Carolina.



Fig. 2. *Physcia ciliaris*. disk, which has a toothed border. *P. ciliaris* much resembles *P. leucomela*, but the ribbon-like lobes are firmer, the color of the thallus is light brown, that of *P. leucomela* is grayish white. *P. ciliaris* is found on rocks, a small variety grows on the earth. While typically a Northern lichen it has been collected in New England and Minnesota.

*PHYSCIA LEUCOMELA* (L.) MICHX. (Fig. 1.) Thallus ascendant and elongated, smooth with long ribbon-like lobes, which become much intertangled and are irregularly divided. Beneath, these lobes are very white, and the margins are covered with strong black fibrils. The edges are rolled over giving the thallus a channeled appearance.

*PHYSCIA CILIARIS* (L.) DC. (Fig. 2). Thallus somewhat downy, the lobes long and narrow, many cleft and much intertangled. Their edges, especially toward the tips, are beset with spine-like fibrils. The thallus is light brown above, beneath a brownish white. Apothecia are medium in size, cup-shaped, with a dark gray

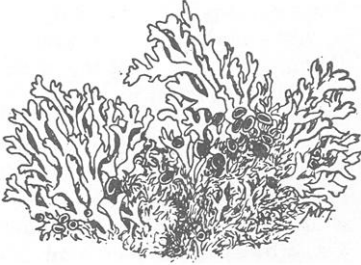


Fig. 3. *Physcia aquila* var. *detonsa*  $\times 2$ .

white with black fibrils, which form a thick black mat. The apothecia are rather small and are sessile, the disk is flat, dark brown, with a toothed, rough looking margin. The apothecia are numerous and are crowded in between the isidioid lobules, giving the surface a very rough appearance.

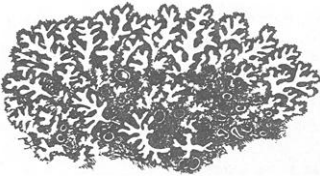


Fig. 4. *Physcia obscura*. light at the margin. The apothecia are a very dark brown, the disk flat, the margin thickly beset with spine-like fibrils. It is found on mossy rocks and on trees.

*PHYSCIA SETOSA* (ACH.) NYL. This lichen belongs to the *obscura* group, and resembles it very closely. The thallus is larger, the lobes are not so finely cut, and the color is not so dark. The lobes are fringed with black fibrils as are those of *P. obscura*, but not so densely. The apothecia are larger and are not surrounded by the stiff black fibrils but have a crenulate margin. With some lichenists this is not made a distinct species, but a variety of *P. obscura*.

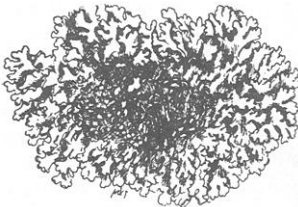


Fig. 5. *Physcia pulverulenta*. nap. The apothecia are of medium size, sessile, the disk flat, darker than the thallus, with the same silvery bloom; it is bordered with a thick lobulate or leaf-like margin.

*PHYSCIA AQUILA* (ACH.) NYL., var. *DETONSA* TUCKM. (Fig. 3.) This interesting lichen is found on rocks, occasionally on trees. In favorable localities it grows in round patches, the outer ring lighter and smoother than the inner part, which gives it the specific name, "*detonsa*," meaning shaved. The thallus at the margin is olive in color, but soon grows brown. The lobes are linear, fringed on the margins with cilia, toward the centre are thickly covered with isidioid lobules. Beneath, the thallus is

*PHYSCIA OBSCURA* (EHRH.) NYL. (Fig. 4). The thallus of this interesting and variable lichen is brownish, the lobes are linear, many-cleft, and flat, fringed with short dense black bristle-like fibrils. The under side is so thickly covered with short black bristles that it looks black, and in some specimens it really is, in others it is

*PHYSCIA PULVERULENTA* (SCHREB.) NYL. (Fig. 5). Thallus covered with a fine white powder or dust which gives it a roughened, silvery appearance. The lobes are crenate with rounded tips. *P. pulverulenta* resembles *P. speciosa* but can be distinguished from it by the pruinose surface. Beneath the thallus is covered with black fibrils which form a close

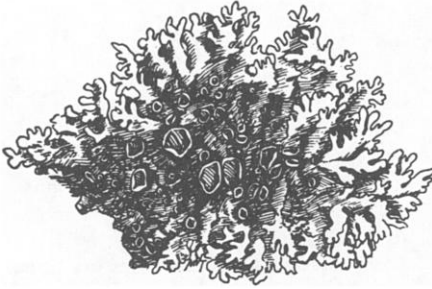


Fig. 6. *Physcia stellaris*  $\times 2$ .

the thallus is pale with short gray fibrils. The apothecia are small to medium in size, are sessile and usually very crowded. When young the disk is gray pruinose, when older it is brownish-black, with an entire margin, which is rolled over.

*PHYSICIA CRISPA* (PERS.) NYL. (PLATE III. 3). Thallus greenish gray, sometimes with a pink tinge. The lobes are rather wide, palmately cut and flat, the turned over edges are covered with pale soredia which form a crust at the centre. Beneath, the thallus is light brown with short, dark brown fibrils. Apothecia, which are not common, are of medium size, sessile, the disk dark brown, the margin incurved and often granulate. *P. crispa* is found in the Southern States, especially along the coast.

### SELIGERIA CAMPYLOPODA, KINDB.

BY ELIZABETH G. BRITTON.

\**S. campylopoda* Kindb. Mac. Cat. 6; 41. 1862. Bryin. Eu. & N. A. 2:213. 1897. *S. recurvata* (Hedw.) Br. & Sch., Mac. Can. Musci. no. 60.

This species was originally collected on limestone rocks, September 16th, 1890, at Owen Sound, Ontario, mixed with *S. Donii*. It was described as resembling *S. recurvata*, but differing in its shorter leaves, without the subulate point of that species, and with the vein ending below the apex in the perichaetial leaves; it was also stated that "the male flower is fixed on the side of the female." Prof. Macoun has again collected this species, on May 11th, 1901, on limestone rocks, Niagara River, and as the specimens are in much better condition than type material, it seems desirable to amend and supplement the original description.

In spite of its small size the species is conspicuous, because of the tufts it makes, abundantly fruiting, with the young bright green leaves held and matted together by the blackened, older plants. They would also attract attention at once by the light yellow, curved pedicels, the pale color of the capsules, and the red peristome and lid. In some plants the red of the latter is quite brilliant, contrasting with the pale slender beak. The teeth are dark red, spreading when dry, and are inserted below the mouth of the capsule, which is bordered by three or four rows of narrower, transversely elongated cells. The walls of the capsule are thin, with oblong cells below,